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EXAMINER	
JEAN GILLES, JUDE	

ART UNIT	PAPER NUMBER
2143	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/799,227	PUJOL ET AL.	
	Examiner	Art Unit	
	Jude J. Jean-Gilles	2143	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 August 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This office action is responsive to communication filed on 03/12/2004.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 1, 5, 7-22, 24-27, and 29-35** are rejected under 35 U.S.C. 102(b) as being anticipated by Ram et al (hereinafter Ram), U.S. Pub. No. 2003/0004853 A1.

Regarding **claim 1**, Ram discloses a system for implementing computer network services and applications (*figs. 4, and 5*), comprising:

a front-end component comprising one or more applications (*par. 0122, and 0124*);

a back-end component comprising one or more services (*par. 0197-0201; fig. 9; item 44 is the backend components and items 91-99 are the provided backend services*); and

an abstraction layer component operable to communicate with said front-end component and said back-end component (*see fig. 5, item 50; par. 0165; the object layer is the abstraction layer, shielding the user interface layer 46 from the implementation details of the lower level communication layer 50*).

5. A system as in claim 1, wherein said abstraction layer component is operable to provide built-in entitlements (*par. 0030, 0143; the built-in entitlements are understood to be an access control mechanism that is provided to check an individuals' entitlements to determine whether the permission to access a particular service has been given*).

7. A system as in claim 1, wherein said abstraction layer component comprises a business integration component (*par. 0206, and 0207; it is important to realize that the algorithms and business rules for matching represents the business integration component*).

8. A system as in claim 1, wherein said abstraction layer component comprises a vendor connectivity component (*par. 0206; see that connectivity to another vendor or backend trading system would be required if the current system does not have its own order execution subsystem or if the one it owns, is not optimal*).

9. A system as in claim 1, wherein said abstraction layer component comprises a security component (*par. 0030; the middleware system or the abstraction layer handles security management, whereby the security of the backend system against unwanted hacker intrusion is assured*).

10. A system as in claim 1, wherein said abstraction layer component comprises a utility

component (*par. 0165*).

11. A system as in claim 1, wherein said abstraction layer component comprises a back end connectivity component (*par. 0030; see the use of the application server to assure access by the backend system to any required software or software modules in order to perform any required function intended to be carried out by the market trading participants*).

12. A system as in claim 1, wherein said abstraction layer component uses application templates to provide standardization of business services (*par. 0044-0046; as standard protocols define the format of instructions and data exchanged between traders, these XML formatted documents inherently represent the business services templates*).

13. A system as in claim 1, wherein said abstraction layer component is operable to provide one or more standardized interfaces to back end services (*par. 0030; note the presence of the application sever which a standardized interface to the backend trading services*).

14. A system as in claim 1, wherein said abstraction layer component is operable to provide standardization of back end services (*par. 0317*).

15. A system as in claim 1, wherein said abstraction layer component is operable to

provide one or more standardized interfaces to external consumers and providers (*par. 0317-0321*).

16. A system as in claim 1, wherein said abstraction layer component comprises a single deployment platform (*par. 0166; note that the communication layer which is used by the abstraction layer to communicate to the backend applications services uses a SOAP or Winsock deployment platform*).

17. A system for linking applications and services (*figs. 4, and 5*), comprising:

a vendor connectivity component (*par. 0206; see that connectivity to another vendor or backend trading system would be required if the current system does not have its own order execution subsystem or if the one it owns, is not optimal*);

a business integration component (*par. 0206, and 0207; it is important to realize that the algorithms and business rules for matching represents the business integration component*);

a security component (*par. 0030; the middleware system or the abstraction layer handles security management, whereby the security of the backend system against unwanted hacker intrusion is assured*);

a utility component (*par. 165*); and

a back end connectivity component (*par. 0030; see the use of the application server to assure access by the backend system to any required software or software*

modules in order to perform any required function intended to be carried out by the market trading participants).

18. A system as in claim 17, wherein said vendor connectivity component is operable to standardize exposure of said applications to said services (*par. 0206; see that connectivity to another vendor or backend trading system would be required if the current system does not have its own order execution subsystem or if the one it owns, is not optimal*).

19. A system as in claim 17, wherein said vendor connectivity component is operable to provide a consistent abstraction between a user interface and a middle tier (*see fig. 5; par. 0165*).

20. A system as in claim 17, wherein said vendor connectivity component is operable to use standardized headers to provide substantially seamless system management integration between a caller and said applications (*0054, 0216, and 0261*).

21. A system as in claim 17, wherein said vendor connectivity component is operable to provide automatically generated service entry points (*par. 0189, 0195, and 0254*).

22. A system as in claim 17, wherein said vendor connectivity component is operable to provide service location (*par. 0165; as the users' actions are sent to backend,*

inherently, the location of the backend services (remote or local) is known by the business logic, thereby performing connectivity) and activation capabilities using one or more standard interfaces (*par. 0223*).

24. A system as in claim 17, wherein said business integration component is operable to provide call context information (*par. 134-141; for example a quote for a bid is a call context information in which, the name of seller/buyer, quote price and the like are revealed*).

25. A system as in claim 17, wherein said business integration component is operable to provide identity context information (*par. 134-141; note that the names of real securities and of real stock exchanges and other market trading participants, Electronic Communication Network (ECN) trading systems, and the like, may be noted. The use of such names and identities is not intended to suggest any endorsement or connection with, or position in, any such security, stock exchange, or ECN*).

26. A system as in claim 17, wherein said business integration component is operable to provide application context information (par. 0141).

27. A system as in claim 17, wherein said security component is operable to provide distributed security (*par. 0030; the middleware system or the abstraction layer handles*

security management, whereby the security of the backend system against unwanted hacker intrusion is assured).

29. A system as in claim 17, wherein said security component is operable to provide entitlement management (*par. 0030, o143; the entitlement management is understood to be an access control mechanism that is provided to check an individuals' entitlements to determine whether the permission to access a particular service has been given*).

30. A system as in claim 17, wherein said security component is operable to provide identity management (*par. 0054, 0058, and 0135*).

31. A system as in claim 17, wherein said utility component is operable to enable said applications to access utilities using a standardized application program interface (*par. 0165*).

32. A system as in claim 17, wherein said utility component is operable to provide centralized end-to-end system management with an ability to correlate information across a plurality of parameters (*par. 0126, and 0198*).

33. A system as in claim 17, wherein said utility component is operable to enable auditing at system boundaries to manage service level agreements and method level metering (*par. 168, 175, 191, 192, and 0198*).

34. A system as in claim 17, wherein said back end connectivity component is operable to enable said applications to access said services via one standardized application program interface (*par. 0317-0321*).

35. A system as in claim 17, wherein said back end connectivity component is operable to provide access to back end data sources without changing a back end system (*par. 0205-0207*).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. **Claims 2, 3, 6, and 36** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ram, in view of Ganfield et al (Ganfield), U.S. Pub. No 2004/0221066 A1.

Regarding **claim 2**, Ram teaches the invention substantially as claimed. Ram discloses a system for implementing computer network services and applications that comprises "an abstraction layer component operable to communicate with said front-end component and said back-end component" (*see Ram, fig. 5; par. 0165*). However

Ram fails to teach a system wherein said abstraction layer component is operable to provide de-coupling of services provided by said back-end component.

Ganfield discloses "logic that constitute an Application Programming Interface (API) that provides an abstraction layer that decouples software from a specific hardware implementation", in an attempt to facilitate "implementation optimization without impacting user software" (see Ganfield, par. 0018; note that the software here is equivalent to "software services").

Accordingly, it would have been obvious to one of ordinary skill in the networking art at the time the invention was made to have incorporated Ganfield's teachings of a system that uses abstraction layer component to provide de-coupling of services with the teachings of Ram, for the purpose of manipulating those services or software in an abstract data view, avoiding any unnecessary copying of data which conserves precious memory bandwidth, thereby reducing the associated product and operation costs as indicated by Ganfield in paragraph 0019. By this rationale **claim 2** is rejected.

Regarding claims 3, 6, and 36, the combination Ram-Ganfield teaches:

3. A system as in claim 1, wherein said abstraction layer component is operable to provide de-coupling of applications in said front-end component (*see Ganfield, par. 0018, and 0019* note that the software here is equivalent to "application software"). The same motivation and reason to combine used for the rejection of claim 2 is also valid for this claim. By this rationale, claim 3 is rejected.

6. A system as in claim 1, wherein said abstraction layer component is operable to provide system wide error reporting (*see Ganfield, par. 0029; note that as the commands that cause the errors are reported, a system wide error reporting is generated*). The same motivation and reason to combine used for the rejection of claim 2 is also valid for this claim. By this rationale, claim 6 is rejected.

36. A system as in claim 17, wherein said back end connectivity component is operable to enable de-coupling of said applications from said services (*see Ganfield, par. 0018; note that the software here is equivalent to "software services"*).

5. **Claims 4, 28** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ram, in view of Bhatia et al (Bhatia), U.S. Pub. No 2007/0199056 A1.

Regarding **claim 4**, Ram teaches the invention substantially as claimed. Ram discloses a system for implementing computer network services and applications that comprises "an abstraction layer component operable to communicate with said front-end component and said back-end component" (*see Ram, fig. 5; par. 0165*). However Ram fails to teach a system wherein said abstraction layer component is operable to provide single sign on for substantially all of said applications.

Bhatia provides a system that facilitates end-to-end identity propagation to a backend-tier application that is not single sign-on enabled. "*Upon receiving a request from a single sing-on server, the system redirects the user to a single sign-on server that verifies authentication credentials of the user. The middle-tier application then*

receives a token from the single sign-on server authorizing access to a backend-tier application. Next, the middle-tier application uses the token to access the private data from the backend-tier application, and then provides the private data to the user" (*see Bhatia par. 0009*). Note that the middle-tier application represents that abstraction layer that uses the single sign-on token to access backend applications.

Accordingly, it would have been obvious to one of ordinary skill in the networking art at the time the invention was made to have incorporated Bhatia's teachings of a system that uses abstraction layer component to provide single sign-on with the teachings of Ram, for the purpose of providing a single sign-on service that can be used as a single point of authentication for the partner applications, thereby facilitating en-to-end authentication for the applications and providing a centralized trust model, as indicated by Bhatia in paragraph 0006. By this rationale **claim 4** is rejected.

Regarding claim 28, the combination Ram-Bhatia teaches:

28. A system as in claim 17, wherein said security component is operable to provide single sign on (*see Bhatia par. 0009*).

6. **Claim 23** is rejected under 35 U.S.C. 103(a) as being unpatentable over Ram, in view of Purewal et al (Purewal), U.S. Pub. No 20050144226 A1.

Regarding **claim 23**, Ram teaches the invention substantially as claimed. Ram discloses a system for implementing computer network services and applications that comprises "an abstraction layer component operable to communicate with said front-end component and said back-end component" (*see Ram, fig. 5; par. 0165*). However

Ram fails to teach a system wherein said one or more standard interfaces comprise a Universal Discovery Description and Integration interface.

Purewal provides a system that offers "*interactive services which may then be published in public or private registries, such as Universal Description, Discovery, and Integration (UDDI), and may also be used in high-level business flows which can integrate with other applications and thereby deliver composite applications*" (*see Purewal, par. 0041*). In an attempt to standardize the use of a distributed Web-based information registries of Web services, using a Universal Discovery Description and Integration interface to allow businesses to register information about Web services makes sense.

Accordingly, it would have been obvious to one of ordinary skill in the networking art at the time the invention was made to have incorporated Purewal's teachings of a system that uses a Universal Discovery Description and Integration interface with the disclosures of implementing computer network services and applications of Ram, for the purpose of allowing businesses (security trade companies and individual traders) to register information about the Web Services they offer (their securities) so that other businesses (other security trade companies and individual traders) can find them, and conduct business with them. Using this known technique of publishing Web services to provide the required service location and activation required by Ram would have been obvious. By this rationale, claim 23 is rejected.

Conclusion

7. **THIS ACTION IS MADE NON-FINAL**. The Examiner anticipates a Final Rejection Office Action on the next response if amendments are not properly made to the claims to perhaps place them in condition for allowance.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Jude Jean-Gilles whose telephone number is (571) 272-3914. The examiner can normally be reached on Monday-Thursday and every other Friday from 8:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wiley, can be reached on (571) 272-3923. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-9000.

Jude Jean-Gilles

Patent Examiner

Art Unit 2143

JJG

August 27, 2007